

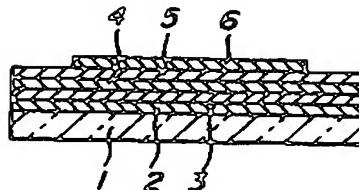
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TITLE : SEMICONDUCTOR PHOTOELECTRIC CONVERSION ELEMENT

ABSTRACT : PURPOSE: To improve photoelectric conversion characteristic by controlling the concentration distribution of a P type additive and (or) an N type additive in response to potential distribution in an intermediate semiconductor film.

CONSTITUTION: An additive is added in order to deny the effect of a very small amount of electrical impurities naturally included in an intermediate semiconductor film, but additive is added unequally so that the rate of concentration change in the thickness direction of a film consisting of the additive is increased on the P type semiconductor film side and the N type semiconductor film side and reduced in the intermediate section of the intermediate semiconductor film. A transparent electrode 2 composed of double layer structure of an In_2O_3 layer and an SnO_2 layer is formed on a glass substrate 1. A P type semiconductor film 3 consisting of P type amorphous $Si_{0.8}C_{0.2}$, to silicon therein boron is added by 0.1atom% and which contains hydrogen, the intermediate semiconductor film (an I-type semiconductor film) 4 composed of amorphous silicon containing hydrogen and a P type additive and an N type additive and an N type semiconductor film 5 consisting of a mixed phase film of N type amorphous silicon and microcrystalline silicon, to silicon therein phosphorus is added by 0.1atom% and which contains hydrogen, are formed on the electrode 2.

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